

FIG. 1

Type	Origin	PB1: Positions											
		52	54	105	175	208	298	364	383	384	396	431	464
H7N7	Bratislava 82 chicken	K	K	N	D	K	L	L	E	P	I	Y	D
H7N7	Rostock34 chicken	K	K	N	D	K	L	L	E	S	L	Y	D
H1N1	WSN33 human	R	R	T	N	R	I	I	D	S	L	H	N
H1N1	Wisconsin88 human	R	K	N	E	K	L	L	D	S	L	Y	D
H2N2	Singapore57 human	K	K	N	D	K	L	L	E	S	L	Y	D
H2N2	Ann Arbor60 human	K	K	N	D	K	L	L	E	S	L	Y	D
H3N2	Honkong68 human	K	K	N	D	K	L	L	E	S	L	Y	D
H3N2	Shiga97 human	K	K	N	D	K	L	L	E	S	L	Y	D
H3N2	Hongkong82 swine	K	K	N	D	K	L	L	E	S	L	Y	D
H3N2	Katakyushu93 human	R	K	N	D	K	L	L	E	S	L	Y	D
H3N8	Tennessee86 equine	K	K	N	N	K	L	L	E	S	L	Y	D
H4N2	Minnesota80 turkey	K	K	N	D	K	L	L	E	S	L	Y	D
H4N6	Ontario99 swine	K	K	N	D	K	L	L	E	S	L	Y	D
H5N1	Hongkong97 human	K	R	N	D	K	L	L	E	S	L	Y	D
H6N1	Taiwan99 chicken	K	K	N	D	K	L	L	E	S	L	Y	D
H7N7	London73 equine	K	K	N	D	K	L	L	E	S	L	Y	D
H9N2	Pakistan99 chicken	K	K	N	D	K	L	L	E	S	L	Y	D

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FIG 1 (continued)

PB1: Positions												
Type	Origin	473	576	584	628	633	636	644	645	654	741	
H7N7	Bratislava 82 chicken	V	L	R	M	S	E	A	V	S	A	
H7N7	Rostock34 chicken	V	L	R	L	S	E	V	V	S	A	
H1N1	WSN33 human	L	I	H	L	N	D	V	I	N	T	
H1N1	Wisconsin88 human	L	I	R	L	S	E	V	V	T	A	
H2N2	Singapore57 human	V	L	R	L	S	E	V	V	S	A	
H2N2	Ann Arbor60 human	V	L	R	L	S	E	V	V	S	A	
H3N2	Honkong68 human	V	L	Q	L	S	E	V	V	S	A	
H3N2	Shiga97 human	V	L	Q	L	S	E	V	V	S	S	
H3N2	Hongkong82 swine	V	L	R	L	S	E	V	V	S	S	
H3N2	Katakuyushu93 human	V	L	Q	L	S	E	V	V	S	A	
H3N8	Tennessee86 equine	V	L	R	L	S	E	V	V	S	S	
H4N2	Minnesota80 turkey	V	L	R	L	S	E	V	V	N	A	
H4N6	Ontario99 swine	V	L	R	L	S	E	V	V	S	A	
H5N1	Hongkong97 human	V	L	R	L	S	E	V	V	S	A	
H6N1	Taiwan99 chicken	V	L	R	L	S	E	V	V	S	A	
H7N7	London73 equine	V	L	R	L	S	E	V	V	S	A	
H9N2	Pakistan99 chicken	V	L	R	L	S	E	V	V	S	A	

Fig.2

Fig.2

plasmid	constitution							other segments	orig.titer	CAT assay	
map PB1	<u>v1 / c1</u>	x3'	<u>c2</u>	S L P	x5'	H R	L V MA	v2	T	A	
WSN-PB1	WSN							WSN	7x10 ⁸ /ml	11	2
pHL3102	WSN		FPV					WSN	1x10 ⁸ /ml	22	38
pHL3103	FPV		WSN					WSN	2x10 ⁷ /ml	10	13
pHL3130	WSN	FPV					WSN	1x10 ⁵ /ml	14	25	
pHL3131	WSN	FPV	WSN					WSN	2x10 ⁶ /ml	18	25
pHL3115	FPV							WSN	3x10 ⁵ /ml	17	28
pHL1844	FPV							FPV	3x10 ⁹ /ml	48	100

Fig.3

plasmid	constitution							other segments	orig.titer	CAT assay	
map PB1	v1 / c1	x3'	c2	S _L P _I (P)	x5'	H R	L V MA v2 T A			293T	MDCK
WSN-PB1			WSN					WSN	7x10 ⁸ /ml	11	2
pHL3204					FPV			WSN	2x10 ⁸ /ml	12	3
pHL3203							FPV	WSN	1x10 ⁸ /ml	24	42
pHL3246			FPV					WSN	3x10 ⁸ /ml	10	3
pHL3247				FPV				WSN	4x10 ⁶ /ml	20	29
pHL3258								WSN	1x10 ⁷ /ml	28	50
pHL3259								WSN	3x10 ⁷ /ml	32	61
pHL3268							FPV	WSN	3x10 ⁷ /ml	39	71
pHL1844							FPV	FPV	3x10 ⁹ /ml	48	100

Fig. 4

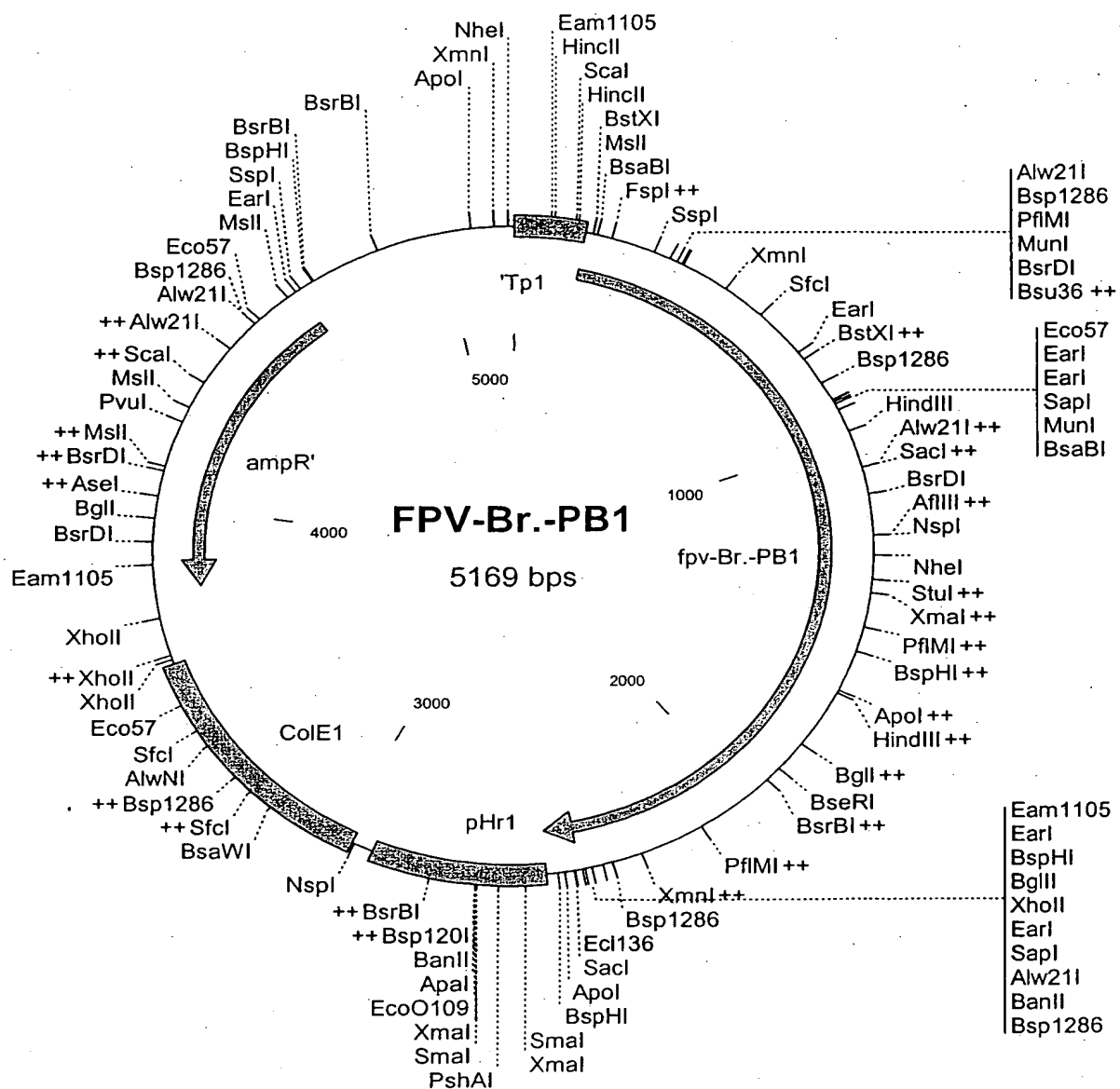
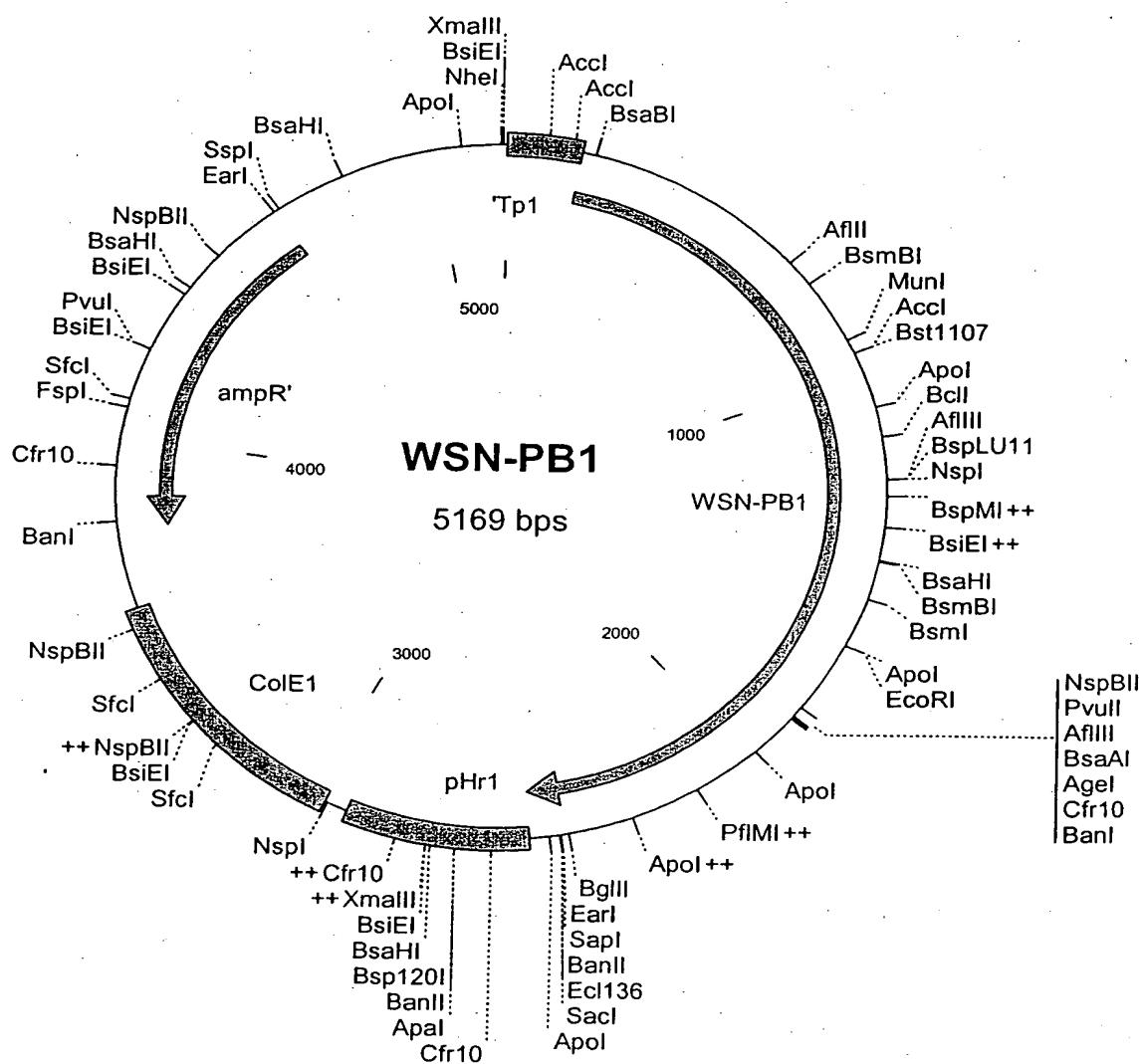


Fig. 5



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Fig. 6

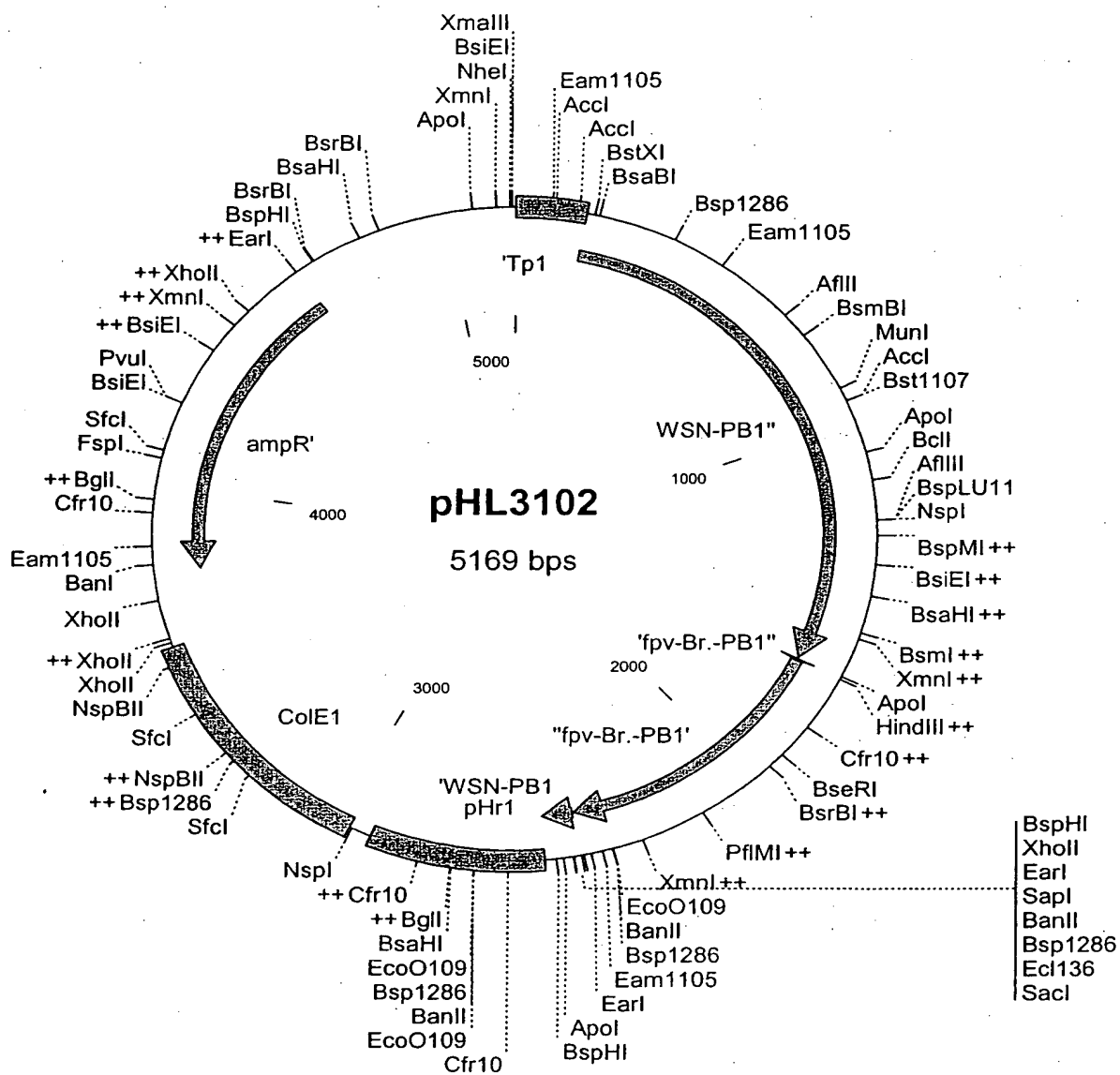


Fig. 7

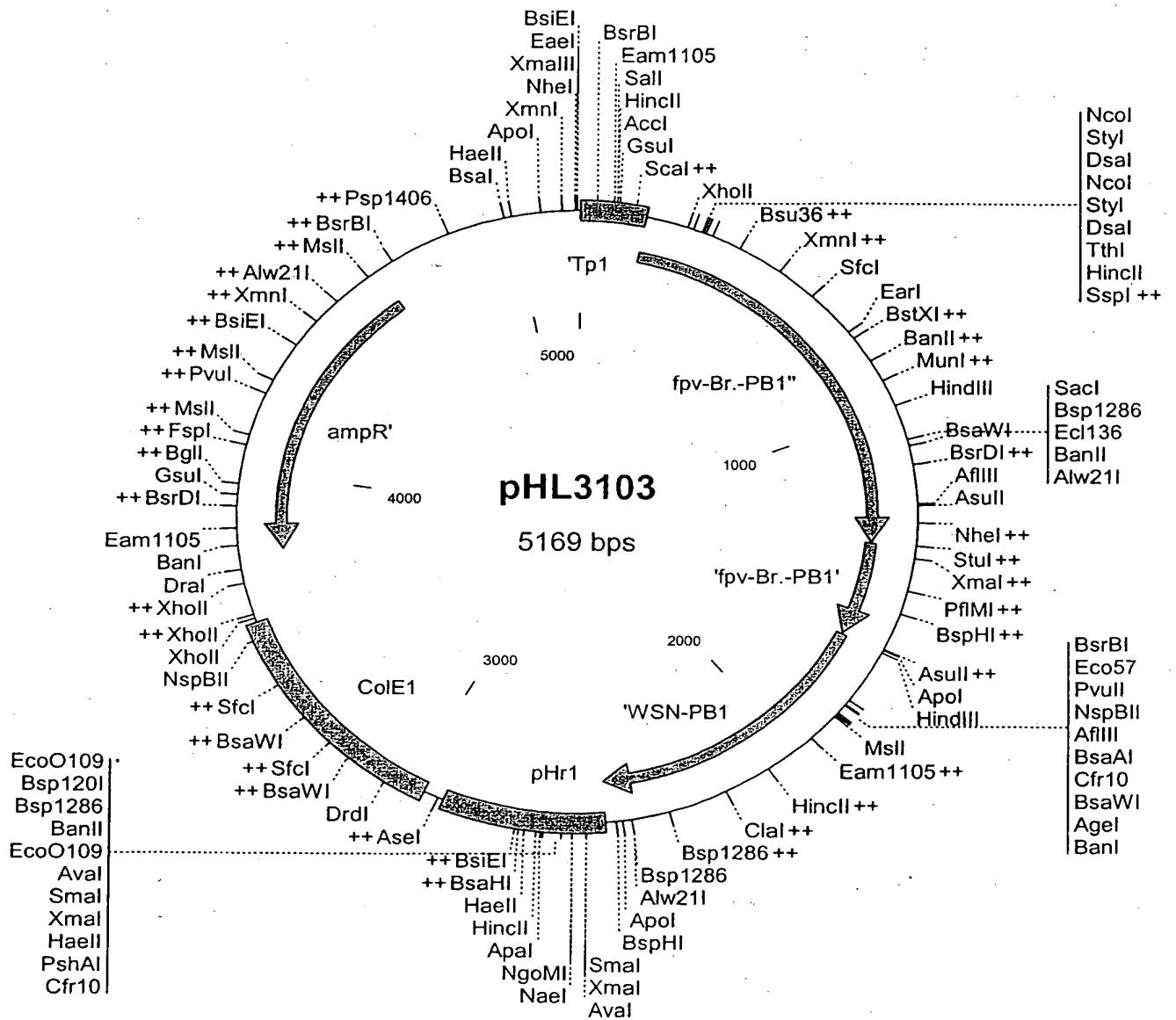
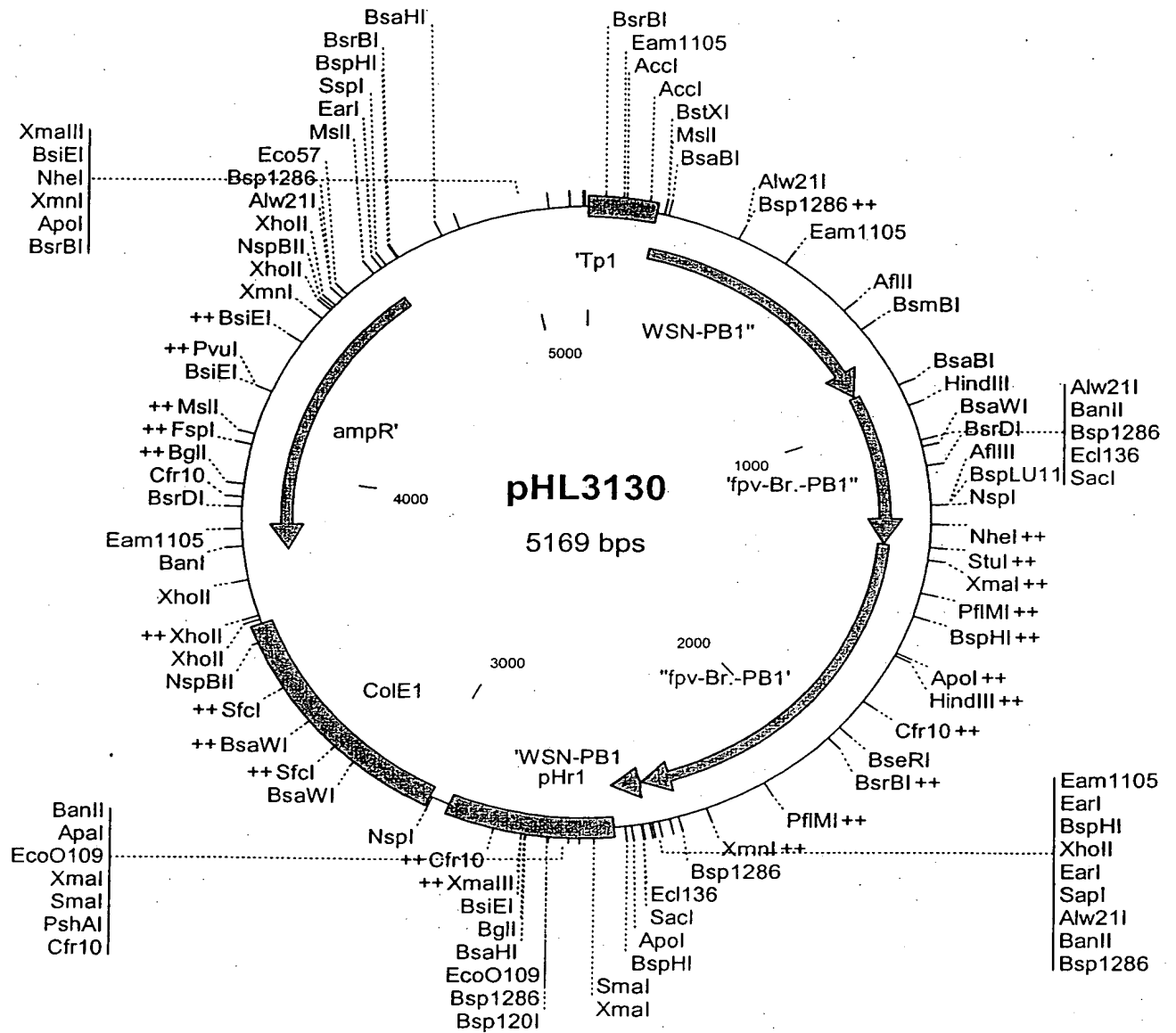


Fig. 8



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Fig. 9

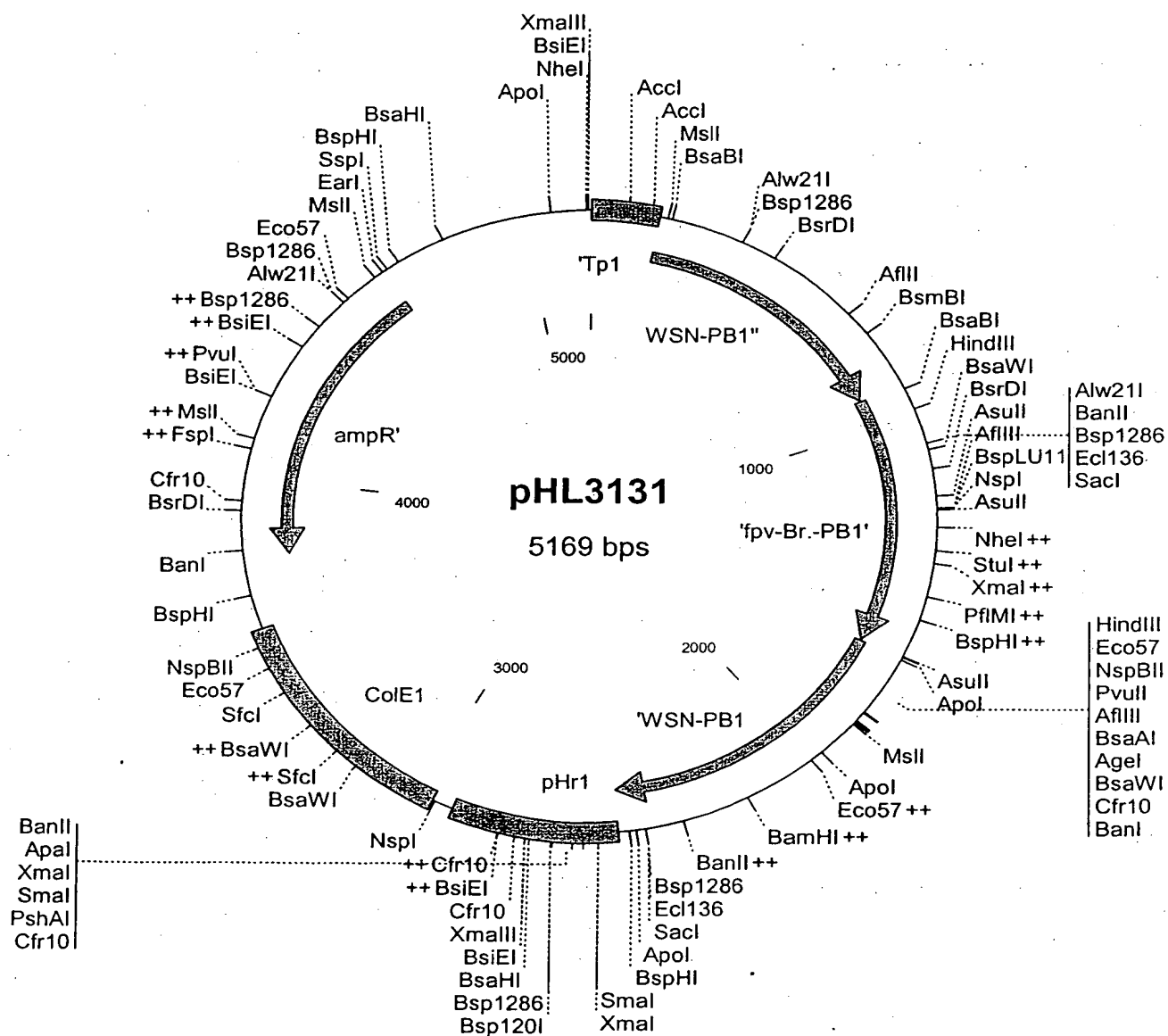
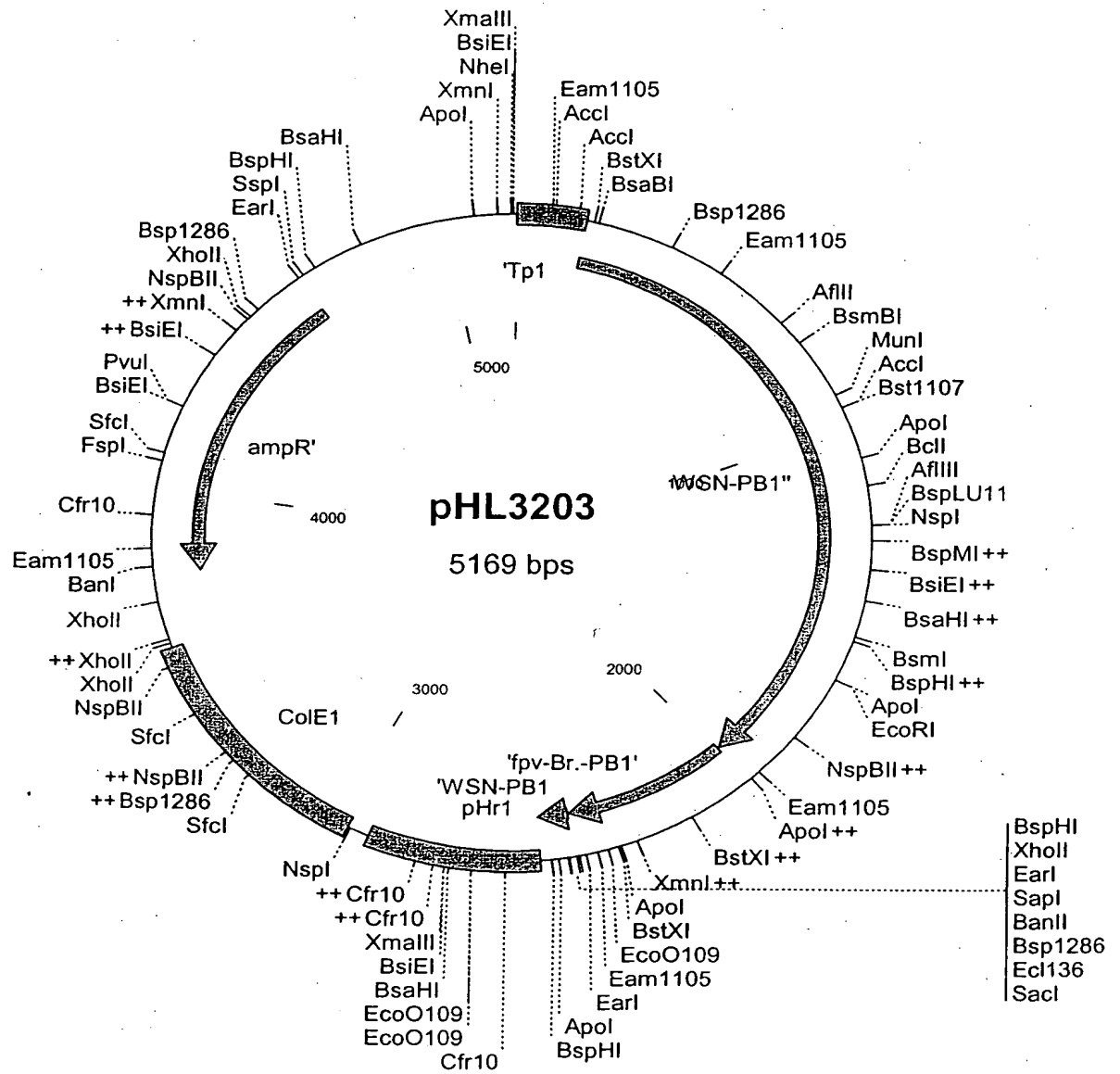


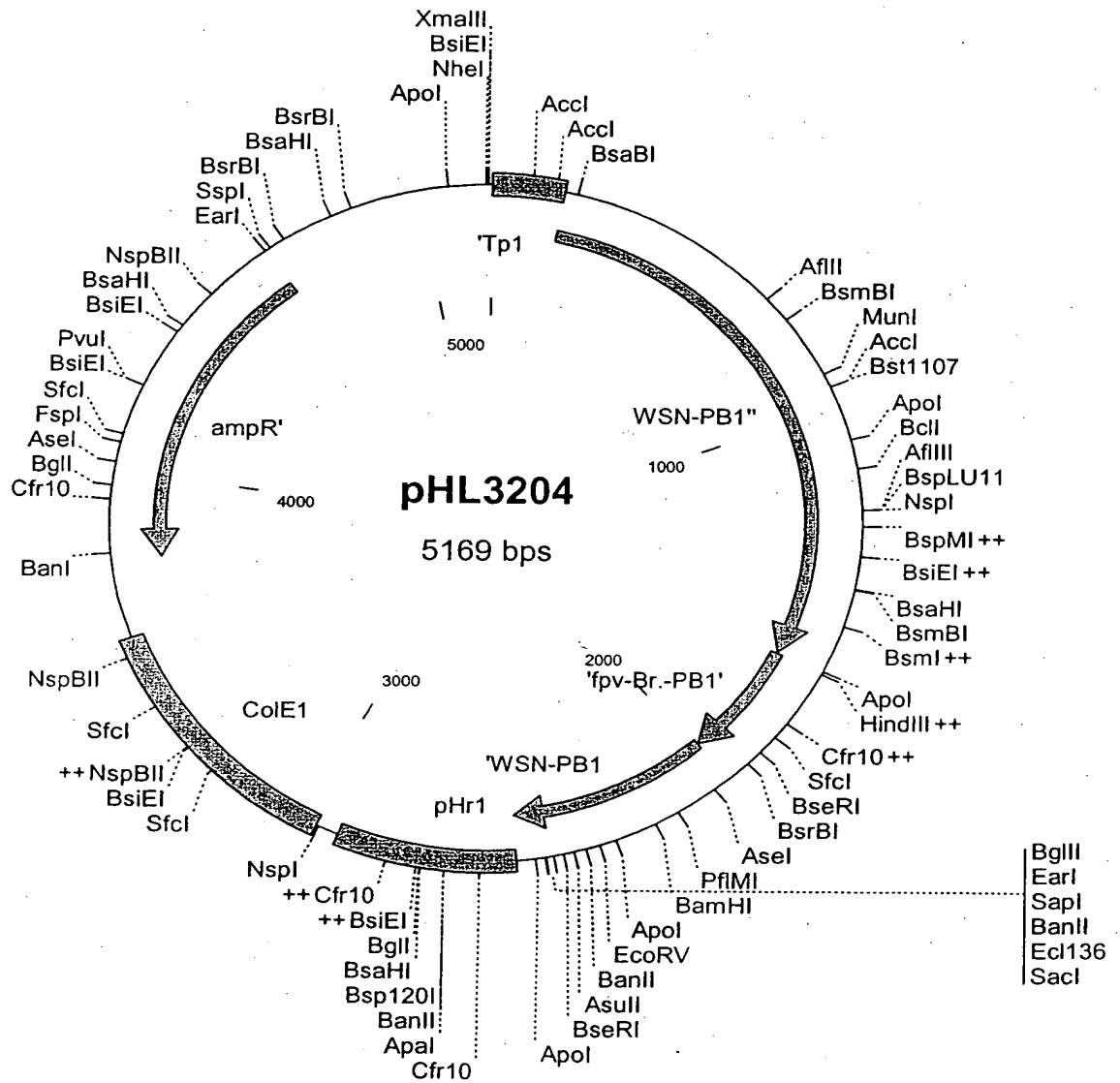
Fig. 10



2020-11-17

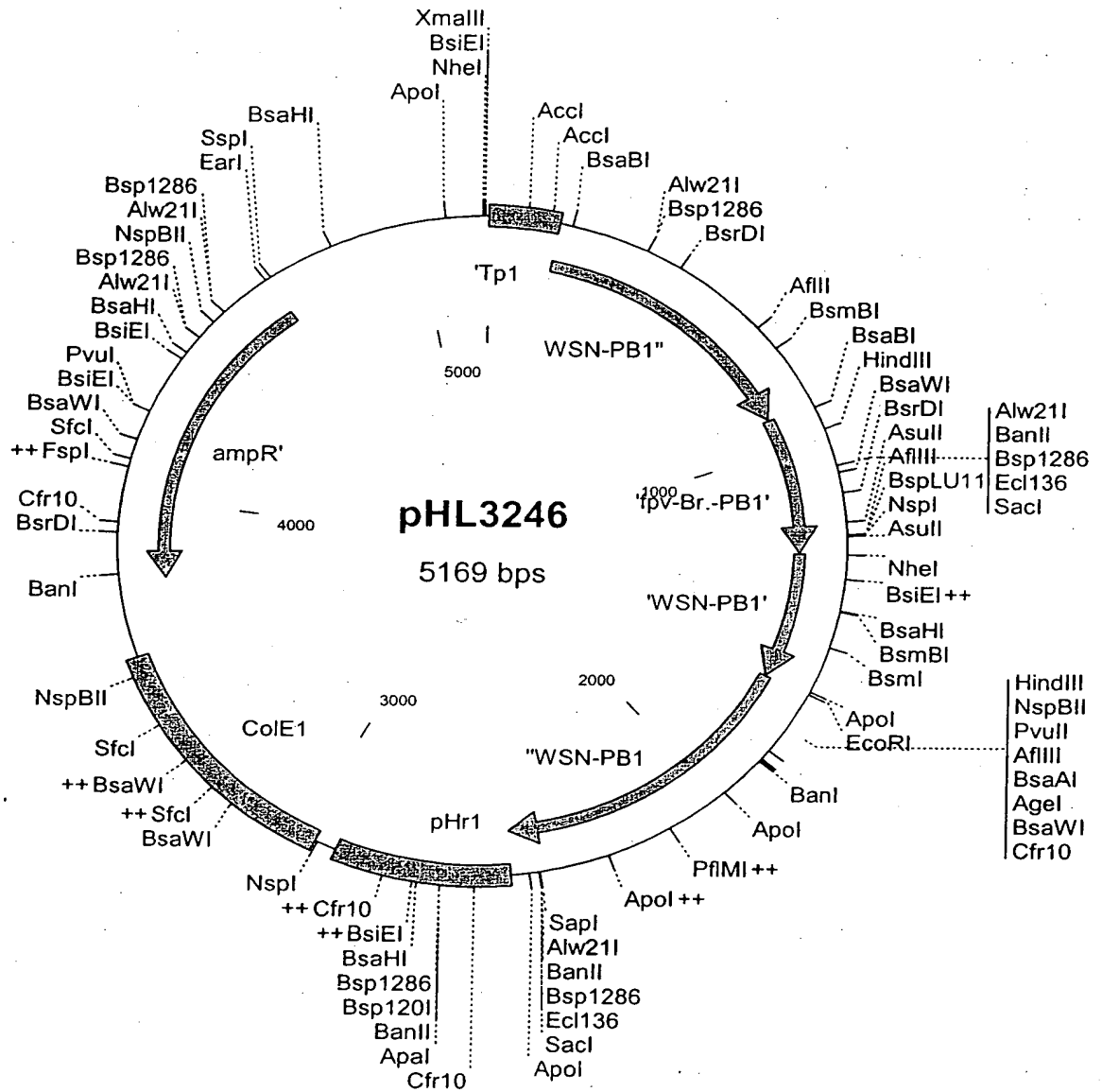
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Fig. 11



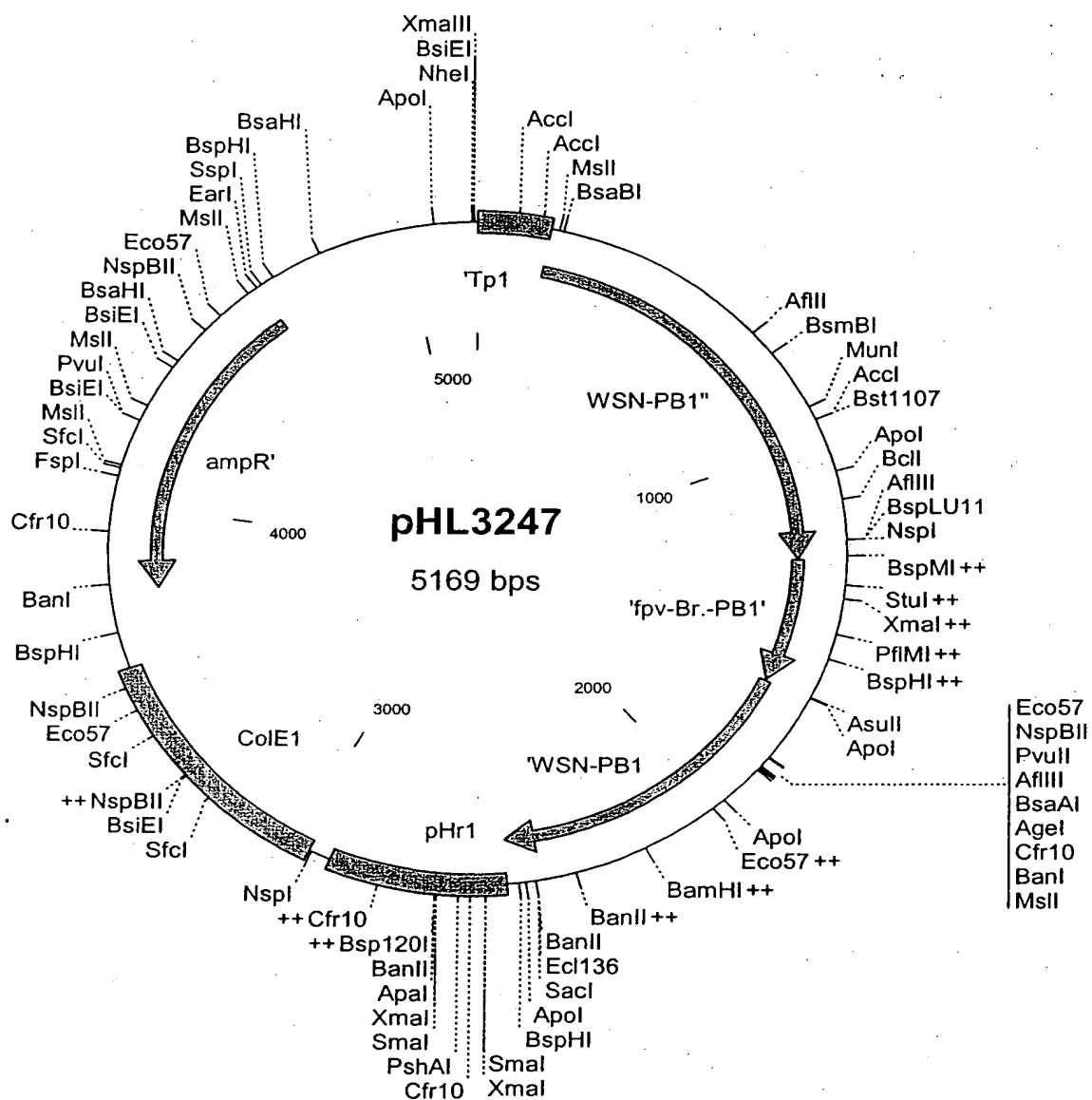
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Fig. 12



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Fig. 13



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Fig. 14

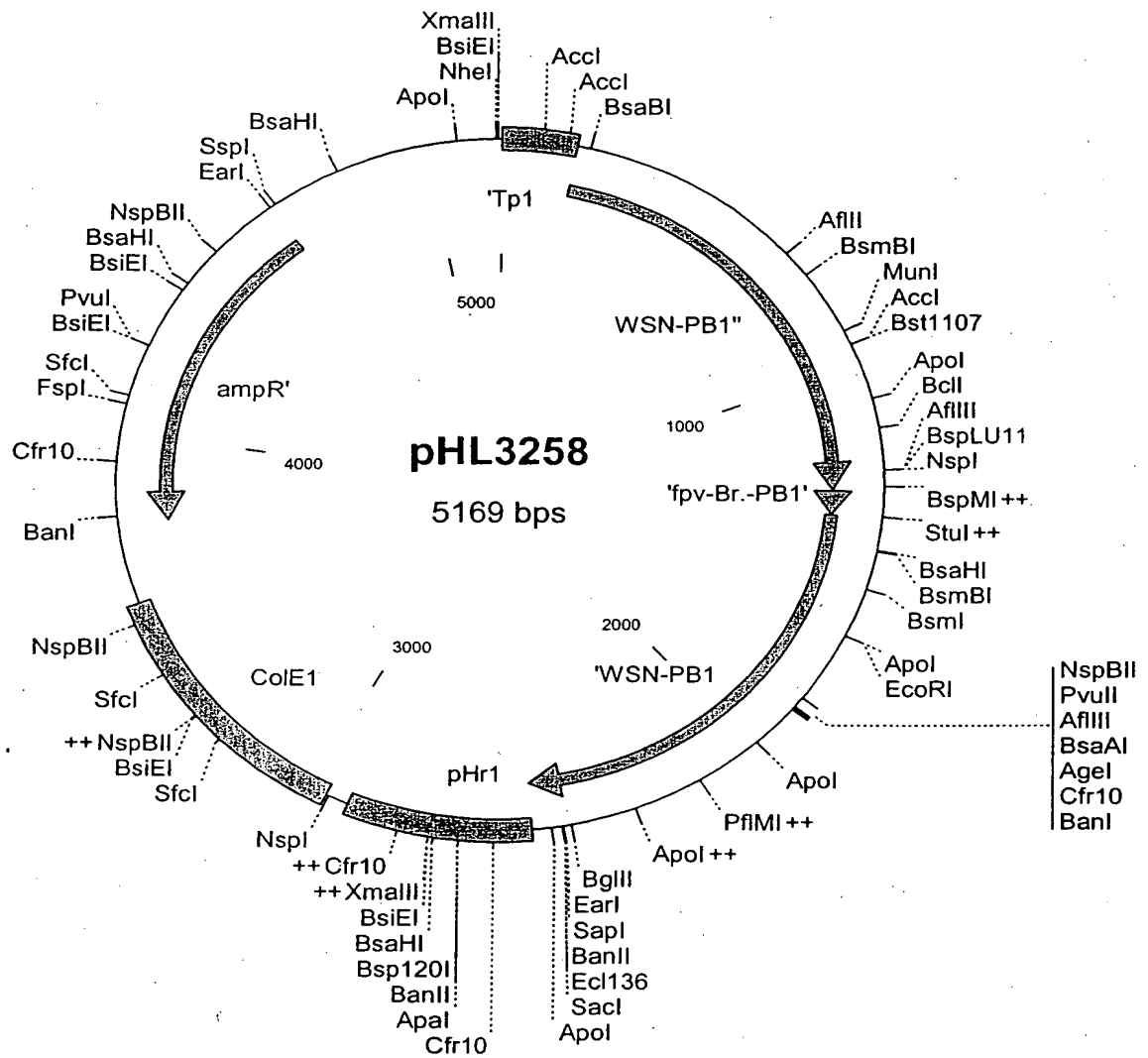


Fig. 15

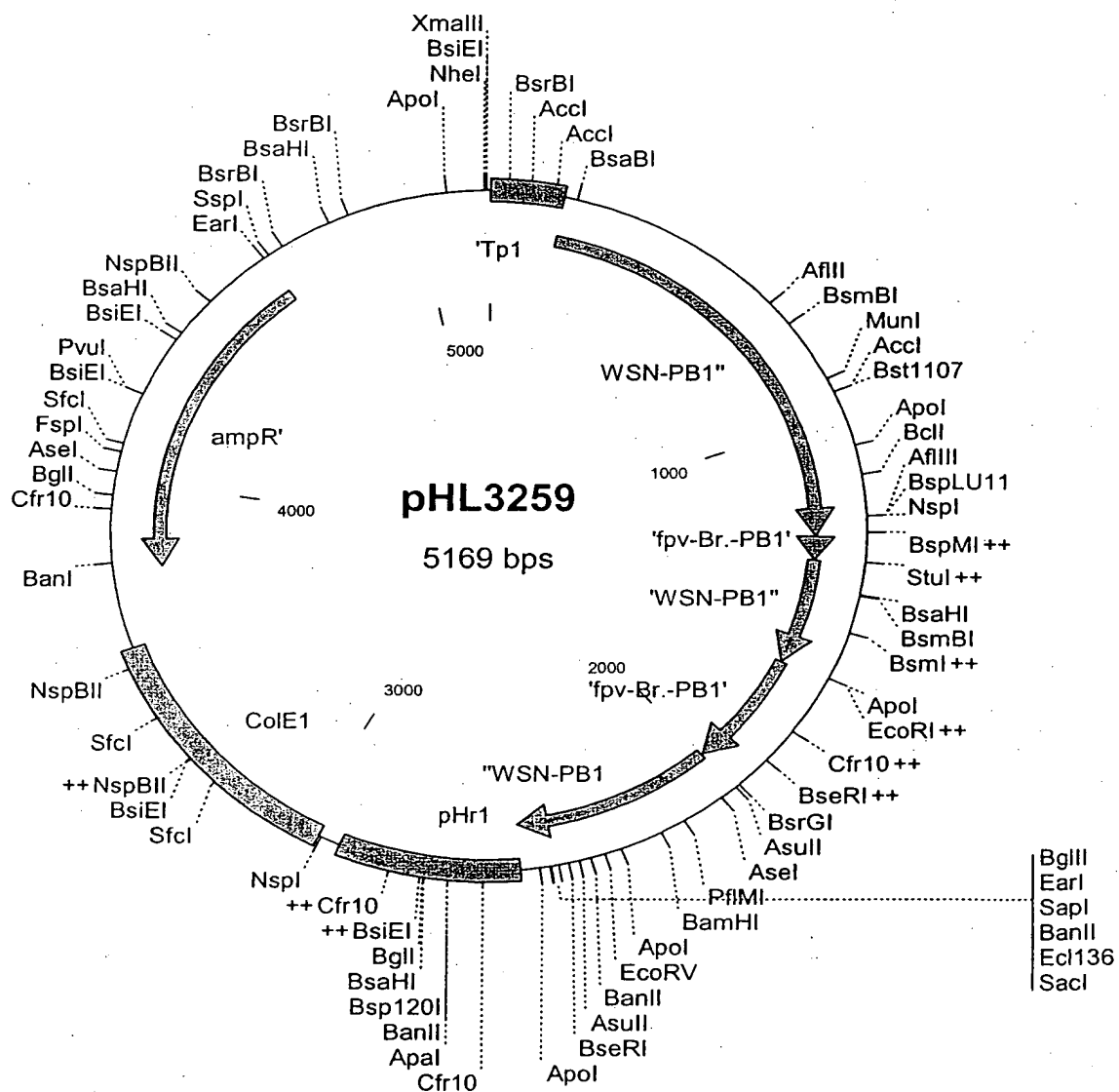
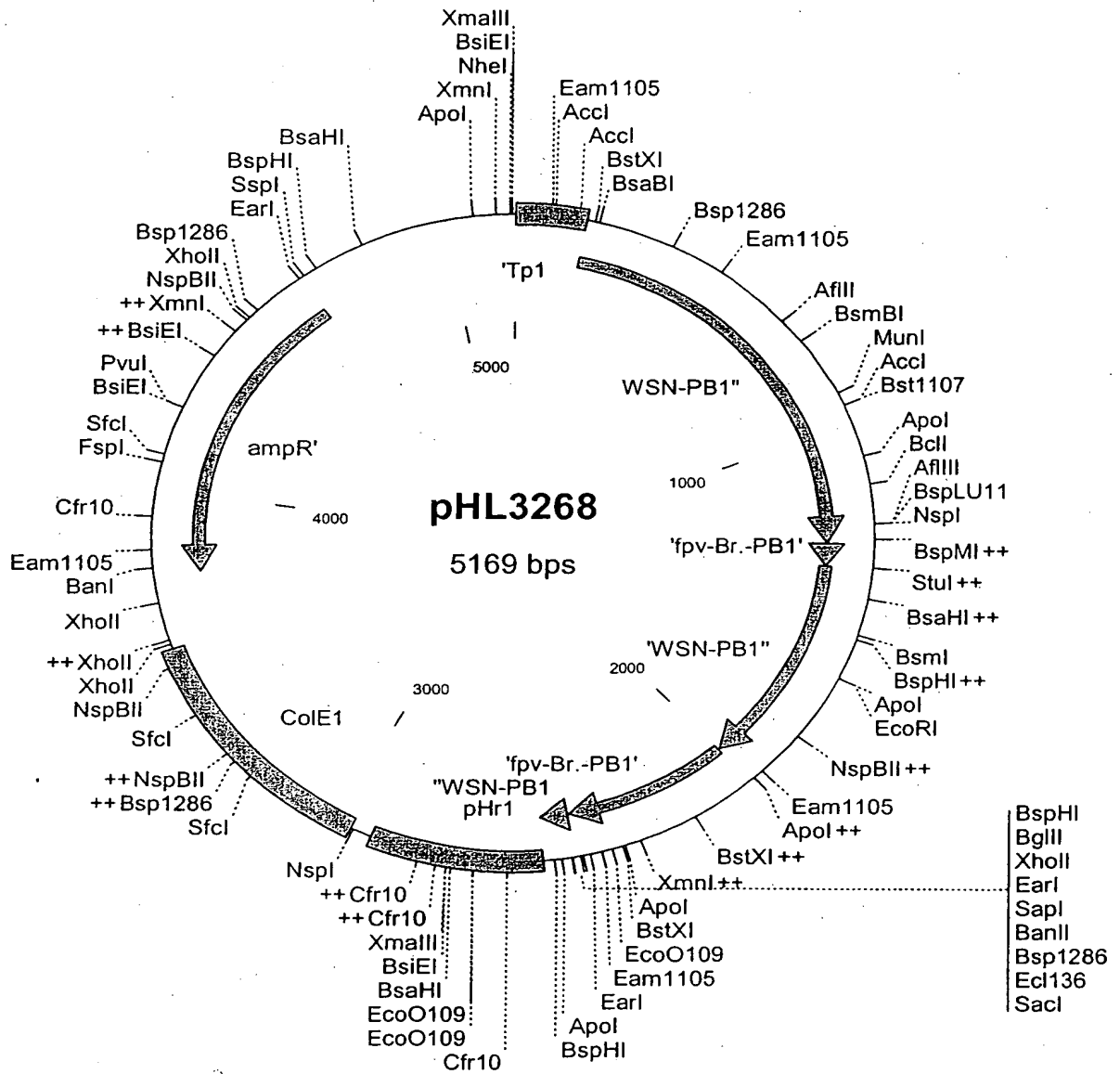


Fig. 16



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